
EMISSION MEASUREMENT CENTER
GUIDELINE DOCUMENT (GD-042)

PREPARATION AND REVIEW
OF
SITE-SPECIFIC EMISSION TEST PLANS

Revised March 1999

PREFACE

This guideline document is made available to promote consistency in the preparation and review of site-specific emission test plans for emission test programs performed for the U.S. Environmental Protection Agency (EPA), State and local agencies, and private sector interests.

The site specific test plan comprises written descriptions, summary tables, and figures that encompass all aspects of a planned emission test program at a particular facility location. After the test is performed, an emission test report is prepared to provide the information necessary to document the data collected and provide evidence that proper procedures were used to accomplish the test objectives. The emission test report presents the information gathered according to the emission test plan. Therefore, the contents of the test plan serve as the foundation for the test report.

This guideline document presents a standard format for preparing the test plan. The standard test plan contains a table of contents, nine sections, and appendices if needed. Rather than providing a general discussion of the standard format, this document lists the contents for each section. Then an example is given to illustrate the intent of each item in the list. The list at the beginning of each section serves a dual purpose: (1) as a guide to the preparer and (2) as a checklist for both the preparer and the reviewer of the test plan.

Readers may reproduce any part of this guideline.

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TABLE OF CONTENTS

The site-specific test plan must contain:

- **Table of contents**
- **List figures**
- **List of tables**

EXAMPLE: At a minimum, the table of contents must include the items shown below:

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TABLE OF CONTENTS

	<u>Page</u>
List of Figures	X
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Appendix A - Test Methods

1.0 INTRODUCTION

1.1 SUMMARY OF TEST PROGRAM

In this section, write a **brief summary** that identifies or states, as applicable, the following:

- Responsible groups or organizations
- Overall purpose of the emission test
- Regulations, if applicable
- Industry
- Name of plant
- Plant location
- Processes of interest
- Air pollution control equipment, if applicable
- Emission points and sampling locations
- Pollutants to be measured
- Expected dates of test

EXAMPLE:

[illegible]

1.1 SUMMARY

The U.S. Environmental Protection Agency (EPA), Office of Air Quality Planning and Standards (OAQPS), Emission Inventory Branch (EIB) is responsible for developing and maintaining air pollution emission factors for industrial processes. EIB in collaboration with the **[Trade Organization]** is presently studying the wood products industry. The purpose of this study is to develop emission factors for oriented strand board (OSB) production facilities. The Emission Measurement Branch (EMB) of OAQPS will coordinate the emission measurement activities. **[Contractor]** and **[Trade Organization]** will conduct the emission measurements.

EPA/EIB and [Trade Organization] considered the [Plant] in [City, State] to be one of four facilities that represent the diversity in wood species and dryer control devices. This test is the second of the four and is scheduled for [Date]. Plans are to conduct simultaneous measurements at the inlet and outlet of the electrified filter bed (EFB) for the No. 1 wood wafer dryer exhaust and at the press vents. Pollutants to be measured are: particulate matter (PM), condensable

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1.2 TEST PROGRAM ORGANIZATION

In this section, include the following:

- Test program organizational chart with lines of communication
- Names and phone numbers of responsible individuals
- If necessary, a discussion of the specific organizational responsibilities

EXAMPLE:

[illegible]

1.2 TEST PROGRAM ORGANIZATION

Figure 1-1 presents the OSB test program organization, major lines of communication, and names and phone numbers of responsible individuals.

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* Trade Organization *      * EPA/Emission Inventory Branch *      *      Plant
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* Representative *      *      Technical Coordinator *      *      Contact
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* Trade Organization *      * Contractor *      * Laboratory A *      * Laboratory B *      * Laboratory
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Figure 1-1. Example test program organization.

2.1 PROCESS DESCRIPTION

- Flow diagram (indicate emission and process stream test points) and general description of the basic process
- Discussion of unit or equipment operations that might affect testing or test results, e.g., batch operations, high moisture or temperature effluents, presence of interfering compounds, and plant schedule
- List of key operating parameters and standard operating ranges, production rates, or feed rates, if available

EXAMPLE:

2.1 PROCESS DESCRIPTION

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- Logs are slashed, debarked, cut into shorter lengths, and sliced into thin wafers.
- The wafers are dried, classified, blended and mixed with resin, oriented, and formed into a mat.
- The formed mats are separated into desired lengths, heated, and pressed to activate the resin and bond the wafers into a solid sheet.
- Sheets are trimmed, edge treated, and packaged for shipping.

At this [Plant], the wood mix is about 60 percent soft wood (e.g., pine), 30 percent soft hardwood (e.g., sweet gum), and 10 percent hardwood. Two 12-foot diameter dryers process 30,000 to 32,000 lb/hr of flakes. The moisture content of the flakes leaving the dryer is about 3 to 4 percent. Inlet temperatures to the dryer run about 750 to 900 F and the exit temperatures about 235 to 255 F. A McConnel burner fired with recycled waste, such as wood trim, fines, and resinated sander dust, heats the dryers. An oil-fired Wellens burner serves as a backup.

The emission test points are EFB inlet and outlet (stack) and the roof vents from the press (see Figure 2-1).

Figure 2-1.

2.2 CONTROL EQUIPMENT DESCRIPTION

- Description of all air pollution control systems
- Discussion of equipment operation and, if necessary, a schematic
- Normal operating ranges of key parameters, if available

EXAMPLE: only the electrified filter bed. In the actual case, the cyclones would also be discussed.

[illegible]

2.2 CONTROL EQUIPMENT DESCRIPTION

Particulate matter from the wafer dryer is controlled by cyclones and an electrified filter bed (EFB) by **[Manufacturer]** a schematic and gravel bed assembly. The EFB is an electrostatic precipitator (ESP) that uses pea gravel as its collection electrodes.

The region formed by the ionizer. The adjacent cylinder wall and impart electrostatic charges

After passing through the ionizer, the gas flows down the chamber into the filter bed section. The filter bed of pea-shaped gravel held between two louvers. A high DC positive voltage creates regions of positive and negative charge on the pebbles. As the gases pass the pebble bed, the negatively charged dust particles are collected on the gravel.

dust accumulates in the filter bed, the resistance to gas flow increases. To maintain constant flow and remove collected particles, the EFB slowly and continuously moves the bottom. The removed gravel particles and is recycled into the EFB at the top.

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Figure 2-2.

3.1 OBJECTIVES

3.1 OBJECTIVES

In this section:

- Restate the overall purpose of the test program.
- List (in order of priority) the specific objectives for both emissions and process operation data.

EXAMPLE:

3.1 OBJECTIVES

The purpose of the test program is to develop emission factors for OSB production facilities from the wood products industry. The specific objectives in order of priority are:

- Measure simultaneously the emissions of PM, CPM, CO, NO_x, HC, formaldehyde (plus other aldehydes and ketones), and volatile and semi-volatile organics at the wood wafer dryer EFB inlet and outlet locations.
- Measure formaldehyde (plus other aldehydes and ketones) emissions from the press vents.
- During the test period, obtain production rates (number of press loads and belt speed), inlet and outlet dryer temperatures, drying rates, EFB bed voltage and current, and EFB voltage and ionizer current.
- Determine the relationship between Method 25 and Method 25A for HC, and between Method 202 and the Oregon Department of Environmental Quality (ODEQ) Method 7 for particulates (PM and CPM).
- Assess the suitability of deriving a correction factor for Method 25A.
- Obtain normal plant operation in hours/day, days/week, and weeks/year, overall plant design capacity, and average production rates.

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3.2 TEST MATRIX

Include a table showing the following (include schematics, if helpful):

- Sampling locations
- Number of runs
- Sample type/pollutant
- Sampling method
- Sample run time
- Analytical method
- Analytical laboratory

EXAMPLE:

3.2 TEST MATRIX

Table 3-1 presents the sampling and analytical matrix. Table 3-2 shows all the measurements being made at each test location.

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TABLE 3-1. [PLANT, LOCATION] TEST MATRIX

Sampling Location	No. of Runs	Sample/Type Pollutant ^a	Sampling Method ^b	Sampling Org	Sample Run Time (min)	Analytical Method ^c	Analytical Laboratory
Outlet Stack	3	PM/CPM	M202 (M5 Filter and Backup Filter) ^d	Ctr-A	60	Gravimetric (PM-M5, CPM-M202, Backup Filter-ODEQ M7)	PM/CPM-Ctr-A Backup Filter-Trade Org
Outlet Stack	3	O ₂ /CO ₂	M3 (bag)	Ctr-A	60	Orsat (M3)	Ctr-A
Outlet Stack	3	CO	M10 (CEM)	Ctr-A	60	NDIR (M10)	Ctr-A
Outlet Stack	3	NO _x	M7E (CEM)	Ctr-A	60	Chemiluminescence (M7E)	Ctr-A
Outlet Stack	6 ^e	THC	M25A (CEM)	Ctr-A	60	FID (M25A)	Ctr-A
Outlet Stack	6 ^e	TGNMO (dual train)	M25	Trade Org	60	Catalysis, GC/FID, NDIR (M25)	Trade Org
Outlet Stack	3	Formaldehyde/ Aldehydes/ Ketones	SW-846 M0011	Ctr-A	60	HPLC (M0011)	Lab-A
Outlet Stack	3	VOC ^f	SW-846 M0010 (MM5)	Ctr-A	60	HRGC/LRMS (M8270), HPLC	Lab-B/ Lab-A
Outlet Stack	3	VOC ^g	SW-846 M0030 (VOST)	Ctr-A	60	HRGC/LRMS (M5040 and M8240)	Lab-B
Outlet Stack	3 ^h	TOC	Evacuated Cylinder	Ctr-B	60	Catalytic FID	Ctr-B
Inlet	3	PM/CPM	M202 (M5 Filter and Backup Filter) ^d	Ctr-A	60	Gravimetric (PM-M5, CPM-M202, Backup Filter-ODEQ M7)	PM/CPM Ctr-A Backup Filter-Trade Org
Inlet	6 ^e	O ₂ /CO ₂	M3	Ctr-A	60	Orsat (M3)	Ctr-A
Inlet	6 ^e	THC	M25A (CEM)	Ctr-A	60	FID (M25A)	Ctr-A
Inlet	3	TGNMO (dual train)	M25	Trade Org	60	Catalysis, GC/FID (M25)	Trade Org

Sampling Location	No. of Runs	Sample/Type Pollutant ^a	Sampling Method ^b	Sampling Org	Sample Run Time (min)	Analytical Method ^c	Analytical Laboratory
Inlet	3	Formaldehyde/ Aldehydes/ Ketones	SW-846 M0011	Ctr-A	60	HPLC (M0011)	Lab-A
Press Vents	3 ⁱ	Formaldehyde/ Aldehydes/ Ketones	SW-846 M0011	Ctr-A	60	HPLC (M0011)	Lab-A
	3	O ₂ /CO ₂	M3	Ctr-A	60	Orsat	Ctr-A

^a PM-particulate matter, CPM - condensible particulate matter, TGNMO - total gaseous nonmethane organics, VOC - volatile organic compounds, TOC - total organic carbon.

^b M - EPA Method, CEM - EPA Instrumental Method using continuous emission monitors.

^c NDIR - Nondispersive infrared, FID - flame ionization detector, GC - gas chromatograph, HPLC - high performance liquid chromatography.

^d Backup filter to approximate Oregon Department of Environmental Quality (ODEQ) Method 7.

^e Three additional runs are tentatively planned following the main test program; if possible, the process parameters will be varied during this additional testing.

^f Semivolatile organic compounds, including target compounds and tentatively identified compounds, plus oxygenated compounds caught in aqueous fractions.

^g Volatile organic compounds.

^h To be conducted with final three of six runs for M25 and M25A; sample acquisition to evaluate proposed analytical technique for total organic carbon measurements.

ⁱ Each run will be conducted on two of eight vents.

TABLE 3-2. MEASUREMENTS AT EACH TEST LOCATION

RUNS 1, 2, AND 3	
EFB Inlet	EFB Outlet
PM/CPM (M-202)	PM/CPM (M-202)
O ₂ /CO ₂ (M-3)	O ₂ /CO ₂ (M-3)
HC (M-25A)	HC (M-25A)
TGNMO (dual) (M-25)	TGNMO (dual) (M-25)
F/A/K (M-0011)	F/A/K (M-0011)
	CO (M-10)
	NO _x (M-7E)
	TOC (Evac. Cont.)
RUNS 4, 5, AND 6	
	HC (M-25A)
	TGNMO (dual) (M-25)

RUN 1	RUN 2	RUN 3
Press Vents 2 & 3	Press Vents 4 & 5	Press Vents 6 & 7
F/A/K (M-0011)	F/A/K (M-0011)	F/A/K (M-0011)
O ₂ /CO ₂ (M-3)	O ₂ /CO ₂ (M-3)	O ₂ /CO ₂ (M-3)

Note: All sampling trains are to be conducted simultaneously within each run. For example, during Run 1, all trains under EFB inlet, EFB outlet, and Press Vents 2&3 are to be run simultaneously.

4.0 SAMPLING LOCATIONS

4.1 FLUE GAS SAMPLING LOCATIONS

In this section:

- Provide a schematic of each location. Include:
 - duct diameter
 - direction of flow
 - dimensions to nearest upstream and downstream disturbances (include number of duct diameters)
 - location and configuration of the sampling ports
 - nipple length and port diameters
 - number and configuration of traverse points
- Confirm that the sampling location meets EPA criteria. If not, give reasons and discuss effect on results.
- Discuss any special traversing or measurement schemes.

EXAMPLE:

[illegible]

4.1 FLUE GAS SAMPLING LOCATIONS

Emission sampling will be conducted at: (1) the EFB inlet on dryer No. 1, (2) the EFB outlet stack on dryer No. 1, and (3) the press vents. Figures 4-1, 4-2, and 4-3 are schematics of these sampling locations.

4.1.1.1 EFB Inlet. See Figure 4-1. Four 4-inch ports will be installed at Sections XX and YY as shown. Because of obstructions around the site, Section XX was the only practical location for Methods 202 and 0011. Method 1 requires that Section XX have 24 traverse points; each point will be sampled for 2.5 minutes for a total time of 60 minutes. One train will traverse into the duct while the other traverses out. At Section YY, about 2 feet below Section XX, one port will be used for the paired Method 25 single-point sampling and the second for Methods 25A and 3.

4.1.2 EFB Outlet. See Figure 4-2. The outlet stack for the EFB presently has two 4-inch sampling ports A and B. Additional 4-inch ports C through H will be installed as shown. Methods 202, 0011, and MM5 will be conducted at Section XX at 24 points (2.5 minutes at each point), the VOST train will be conducted at port E, and Methods 25 (dual), 10, 7E, and 3 will be conducted at Section YY.

Figure 4-1

Figure 4-2

Figure 4-3

5.0 SAMPLING AND ANALYTICAL PROCEDURES

5.1 TEST METHODS

In this section, include the following:

- Schematic of each sampling train
- Flow diagram of the sample recovery
- Flow diagram of sample analysis
- Description of any modifications and reasons for them
- Discussion of any problematic sampling or analytical conditions

If a non-EPA method is used instead of an EPA method, explain the reason. Place a copy of all methods in Appendix A. Be sure that non-EPA methods are written in detail similar to that of the EPA methods.

EXAMPLE: This example is for just one of the test methods. The site-specific test plan should include similar schematics and flow diagrams for each of the test methods.

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5.1 TEST METHODS

5.1.1.1 Particulate Matter/Condensible Particulate Matter. PM/CPM at the inlet and outlet of the EFB will be determined by Method 202. One of the objectives of this test is to compare Method 202 with ODEQ Method 7, which is identical to Method 202 except for the following:

- A second filter is placed just before the silica gel impinger.
- Acetone rather than methylene chloride is used in the final rinse of the impingers and connecting glassware.
- An optional out-of-stack filter is used before the impingers.

Because of space limitations, Method 202 will be modified by inserting a second filter in the same position as that in the ODEQ Method 7. This back-up filter will be analyzed gravimetrically according to the ODEQ procedure. All other procedures will be those of Method 202. These modifications will not affect the results from Method 202. Figures 5-1 and 5-2 are schematics of Method 202 (showing modification) and ODEQ Method 7, respectively.

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Figure 5-1.

Figure 5-2.

PROBE & NOZZLE	FRONT HALF OF FILTER HOLDER	FILTER	BACK HALF OF FILTER HOUSING	1ST, 2ND, & 3RD IMPINGERS (DI WATER)	FRONT HALF OF BACKUP FILTER HOUSING	BACKUP FILTER	LAST IMPINGER
Rinse with acetone	Brush and rinse with acetone	Carefully remove and place in petri dish		Measure impinger contents		Carefully remove and place in petri dish	
Brush liner and rinse with acetone		Brush loose particulate onto filter		Empty contents into sample container		Seal petri dish	
		Seal petri dish	Rinse 2X with DI water	Rinse 2X with DI water	Rinse 2X with DI water		
			2X Rinse with MeCl ₂	Rinse 2X with MeCl ₂	Rinse 2X with MeCl ₂		Weigh silica gel for moisture
AR Container 2	F Container 1	IMP Container 4			MeCl ₂ Container 5	BU-F Container 6	SG Container 3

Figure 5-3. Sample recovery scheme for particulate/condensable samples.

CONTAINER 1 FILTER	CONTAINER 2 ACETONE RINSE	CONTAINER 4 IMPINGERS	CONTAINER 5 MECL ₂	CONTAINER 6 BACK-UP FILTER
	Determine total sample volume	Determine total sample volume	Determine total sample volume	
	Transfer contents to tared beaker		Combine contents in 1000-ml separatory funnel	
			Mix, allow to separate, drain (save) most of MeCl ₂ phase into MeCl ₂ sample container	
			Add 75 ml of MeCl ₂ to separatory funnel and repeat above procedure	
			Repeat above	
		Place H ₂ O in a pre-cleaned container and evaporate to 50 ml on a hot plate or equivalent	Transfer MeCl ₂ contents to tared beaker	
		Place in a tared beaker and evaporate to dryness in a 105 C oven	Allow to evaporate at room temperature under a hood	
Desiccate and weigh to constant weight	Desiccate and weigh to constant weight	Desiccate and weigh to constant weight	Desiccate and weigh to constant weight	Desiccate and weigh to constant weight

Figure 5-4. Analytical scheme for particulate/condensibles samples.

5.2 PROCESS DATA

In this section, include the following:

- Description of analytical, sampling, or other procedures for obtaining process stream and control equipment data

EXAMPLE:

[illegible]

5.2 PROCESS DATA

The following process operation data will be collected:

- Number of press loads during EFB inlet/outlet testing
- Number of press loads during press vent testing
- Dryer inlet and outlet temperatures
- Belt speed
- EFB bed voltage and current
- EFB ionizer voltage and current

The **[Process Monitor]** will count the number of press loads, and obtain the dryer data from the central control panel and the EFB data from the EFB control panel.

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6.0 QA/QC ACTIVITIES

6.1 QC PROCEDURES

In this section, provide the following for each test method:

- Data sheets
- QC check lists, which could be part of the data sheets
- QC control limits
- Discussion of any special QC procedures

Examples of QC checks would be calibration of instruments, matrix spikes, duplicate analyses, internal standards, blanks, linearity checks, drift checks, response time checks, and system bias checks.

EXAMPLE: Examples for Method 1 and Method 2 are provided below. Other examples of data sheets/QC check lists may be obtained through EMTIC.

6.1 QC PROCEDURES

Data sheets that also act as QC check lists and include QC control limits for Methods 1 and 2 are shown in Figures 6-1 and 6-2.

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6.2 QA AUDITS

For each of the test methods for which an audit is to be conducted, list (if applicable) the following:

- Type of audits to be conducted
- Limits of acceptability
- Supplier of audit material
- Audit procedure
- Audit data sheet/OC check list

EXAMPLE: An example for Method 5 dry gas meter is provided below. Other examples of data audit sheets/QC check lists may be obtained from EMTIC.

6.2 OA AUDITS

Calibrated critical orifices (about 0.5 cfm) supplied by EPA will be used to audit the Method 5 dry gas meter calibration. The dry gas meter value must agree to within ± 5 percent of the critical orifice value. The

procedure in Section 7.2 of Method 5 will be used. The data sheet provided by EPA will be used.

Figure 6-1

FIGURE 6-2. EXAMPLE VELOCITY DATA SHEET

Date _____ Run No. _____ Test Location _____

Plant _____

Operator_____

S t a r t T i m e :

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Schematic: Cross-Section

P i t o t I D N o .

Pitot coeff: $C_p =$ _____

Last calibrated: Date:

P i t o t c o n d i t i o n :

Gauge sensitivity:

Req'd _____

in. H₂O⁻

Actual _____

in. H₂O

Calibration:

Pre-test _____

Post-test _____

Leak check: (None)

Pre-test: _____

Post-test: _____

[illegible]

Temp. ID No. _____
Temp. calibration: (1.5% abs)
Pre-test _____
Post-test _____

Barometric pressure gauge calibration:
(0.1 in. Hg)

Pre-test _____
Post-test _____

Barometric pressure: P_b = _____ in. Hg

Static pressure: P_s = _____ in. Hg

Pitot configuration/assembly:

Sketch/dimensions

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Checked for completeness by (Signature/Title)

.3 QA/QC CHECKS OF DATA REDUCTION

In this section, describe the following:

- Procedure for assuring accurate transfer of raw data and accuracy of calculations
- Data quality indicators, such as
 - Using F_o factors to validate Orsat, CEM CO_2/O_2 data
 - Comparing process O_2 monitor and CEM O_2 data
 - Comparing flow rates measured at different locations or by different sampling trains
 - Comparing relative concentrations at different sampling locations
 - Comparison of data with previous field test results (if applicable)
 - Running mass balances

EXAMPLE:

[illegible]

6.3 QA/QC CHECKS OF DATA REDUCTION

The **[QA Officer]** will run an independent check (using a validated computer program) of the calculations with predetermined data before the field test. This will ensure that calculations done in the field are accurate. The **[QA Officer]** will also conduct a spot check on-site to assure that data are being recorded accurately. After the test, the **[QA Officer]** will check the data input to assure that the raw data have been transferred to the computer accurately.

The F_o factors from Method 3 will be used to validate the CO_2/O_2 data. Since the fuel consists of wood trim, fines, and resinated sander dust, the F_o factor is expected to be within 1.000 and 1.120.

The inlet and outlet volumetric flow rates will be compared. In addition, the volumetric flow rates from the Method 202 and MM5 trains will be compared. Agreement within these two trains should be ± 10 percent.

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6.4 SAMPLE IDENTIFICATION AND CUSTODY

- Person responsible
- Sample identification and chain-of-custody procedure
- Sample identification label
- Chain-of-custody form
- Sample log sheet

EXAMPLE: The scheme for identifying samples should be logical and easily deciphered, e.g., 2I-PM-F means Run No. 2, inlet, particulate matter sample, filter.

[illegible]

6.4 SAMPLE IDENTIFICATION AND CUSTODY

The **[Task Leader]** is responsible to ensure that all samples are accounted for and that proper custody procedures are followed. After collecting and recovering the sample, the **[QA Officer]** will supply sample labels and integrity seals, maintain inventory records of all the samples taken, and ensure that chain-of-custody forms are filled. Figures 6-3 through 6-6 show some examples.

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Figure 6-3. Example sample labels.

Figure 6-4. Example field sample quality control sheet.

Figure 6-5. Example sample inventory sheet.

Figure 6-6. Example chain-of-custody form.

7.0 REPORTING AND DATA REDUCTION REQUIREMENTS

7.1 REPORT FORMAT

In this section, include:

- Table of contents for the test report

EXAMPLE:

[illegible]

7.1 REPORT FORMAT

The Table of Contents for the report will be:

TABLE OF CONTENTS

1.0	Introduction	
1.1	Summary of Test Program	X
1.2	Key Personnel	X
2.0	Source and Sampling Location Descriptions	
2.1	Process Description	X
2.2	Control Equipment Description	X
2.3	Flue Gas and Process Sampling Locations	X
3.0	Summary and Discussion of Results	
3.1	Objectives and Test Matrix	X
3.2	Field Test Changes and Problems	X
3.3	... Summary of Results (one for each objective)	
4.0	Sampling and Analytical Procedures	
4.1	Emission Test Methods	X
5.2	Process Test Methods	X
5.3	Sample Identification and Custody	
5.0	QA/QC Activities	X

APPENDICES

- A - Results and Calculations
B - Raw Field Data and Calibration Data Sheets
C - Sampling Log and Chain-of-Custody Records
D - Analytical Data Sheets
E - Audit Data Sheets
F - List of Participants
G - Additional Information

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7.2 DATA REDUCTION AND SUMMARY

In this section, include:

- Data summary tables; include units (e.g., lb/mmBtu, lb/ton of product, dscm corrected to 6% O₂)

EXAMPLE: The example is for only one of the sets of measurements. Similar tables should be made for all sets of data.

[illegible]

7.2 DATA REDUCTION AND SUMMARY

Table 7-1 shows the format to be used to summarize the data.

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TABLE 7-1. SUMMARY TABLE FORMAT OF EMISSION DATA

[illegible]

8.3 SAFETY REQUIREMENTS

In this section:

- List the facility's safety requirements and emergency response plan.
- Note any deviations from the safety requirements, discussions with the plant, and outcome of the discussions concerning the deviations.

Requirements may include such items as personnel safety equipment, first aid gear, smoking restrictions, vehicle traffic rules, escorts, entrance and exit locations, required communications during and after business hours, e.g., times when testing crew arrives and leaves site, or evacuation procedure for various alarms.

EXAMPLE:

[illegible]

8.3 SAFETY REQUIREMENTS

All test personnel will adhere to the following standard safety and precautionary measures as follows:

- Confine selves to test area only.
- Wear hard hats at all times on-site, except inside sample recovery trailers and mobile CEM laboratory.
- Wear protective shoes or boots in test area.
- Wear protective glasses or goggles at the EFB inlet and outlet test sites, and other areas as designated.
- Have readily available first aid equipment and fire extinguishers.

Before or on the first day on-site, the **[Test Director]** will fill out the Emergency Response Procedure form (see Figure 8-1) and provide copies to be posted at each test site.

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Figure 8-1. On-Site Emergency Response Procedures*

Project:_____ Date:_____

Location:_____ By:_____

Evacuation Signal:_____

When it sounds:_____

Gather with other test personnel at (location):_____

All clear signal: _____

First aid station location and phone number:_____

Ambulance phone number:_____

Fire Department phone number:_____

Hospital phone number:_____

* Post or secure at your work station for easy reference in the event of an emergency.

9.0 PERSONNEL RESPONSIBILITIES AND TEST SCHEDULE

9.1 TEST SITE ORGANIZATION

In this section:

- List the key tasks and task leaders.

EXAMPLE:

[illegible]

9.1 TEST SITE ORGANIZATION

The key tasks and task leaders are:

- Management: [Name]
- Test Preparation/Site Restoration: [Name]
- Modifications to Facility/Services: [Name]
- Sampling Site Accessibility: [Name]
- Sample Recovery: [Name]
- Daily Sampling Schedule: [Name]

(((((

9.2 TEST PREPARATIONS

In this section, describe or identify the following:

- Construction of special sampling and analytical equipment
 - Description
 - Dates for completion of work
 - Responsible group
- Modifications to the facility, e.g., adding ports, building scaffolding, installing instrumentation, and calibrating and maintaining existing equipment
 - Description
 - Dates for completion
 - Responsible group
- Services provided by the facility, such as electrical power, compressed air, and water
 - List of all services to be provided by the facility
 - Description of modifications or added requirements, if necessary
- Access to sampling sites
 - Description
 - If modifications are required, requirements and responsible group
- Sample recovery area
 - Description

- EXAMPLE:**

9.2 TEST PREPARATIONS

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9.3 TEST PERSONNEL RESPONSIBILITIES AND DETAILED SCHEDULE

In this section:

- Describe pre-test activities.
- Provide a table that lists staff assignments and responsibilities.
- Provide a table or text detailing the test schedule.

EXAMPLE:

9.3 TEST PERSONNEL RESPONSIBILITIES AND DETAILED SCHEDULE

[Contractor] personnel will arrive at the plant about 1.5 hours before the start of the first test run on each of the two days scheduled for sampling. Pre-test activities on these days will include:

- Meet with the plant contact and the EPA WAM to review the daily test objectives.
- Prepare and set-up (including leak checks) the manual method trains at all test locations.
- Calibrate instrumental analyzers and verify that the data acquisition systems are functioning properly.
- Verify communication links between team members/leaders/plant personnel.

Table 9-1 lists the test personnel and their specific responsibilities. Figure 9-1 and Table 9-2 present a detailed test schedule.

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[illegible][illegible]

[illegible]

9-6

MONDAY July 29, 1991	TUESDAY July 30, 1991	WEDNESDAY July 31, 1991	THURSDAY August 1, 1991
<ul style="list-style-type: none"> •Travel to site •Establish test team/ Plant communications •Set up test locations •Conduct preliminary measurements •Set up lab for sample recovery 	<ul style="list-style-type: none"> •Complete 2 test runs 	<ul style="list-style-type: none"> •Complete 3rd test run •Pack up all but Methods 25 and 25A equipment •Conduct 2 additional Method 25/25A runs •Collect 2 evacuated cylinder samples •Rest of staff drive home •Afternoon: contingency test day 	<ul style="list-style-type: none"> •Conduct 1 additional Method 25/25A run •Collect 1 evacuated cylinder sample •Restore sites •Remaining staff drive home •Contingency test day

Figure 9-1. Proposed daily test schedule for **[Plant]** test program.